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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/772,478	Applicant(s) LINKERT ET AL.	
	Examiner JACOB F. BETIT	Art Unit 2169	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18, 20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18, 20 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Remarks

1. In response to communications filed on 5 February 2009, claims 1, 4-5, 15, and 20 have been amended; claim 19 has been cancelled; and claim 21 has been added per the applicant's request. Claims 1-18, 20, and 21 are presently pending in the application.

Claim Objections

2. Claims <> are objected to because of the following informalities:

Claim 1 states "an individual record of the first data base". It is believed that it was meant --an individual record of the first database--.

Claim 6 states "second-type hashes". There is insufficient antecedent basis for this limitation in the claim.

Claim 15 states "the network copy of the first database; using the first technique;". It is believed that it was meant --the network copy of the first database using the first technique;--.

Claim 18 states "further comprising the operations of;". It is believed that it was meant --further comprising the operations of:--.

Claim 21 does not use and conjunction at the end of the "creating the second hash" step. It is believed that it was meant --creating the second hash information pursuant to a second technique; and--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yianilos et al. (U.S. patent application publication No. 2002/0029214 A1) in view of La Rue et al. (U.S. Patent No. 6,401,104 B1).

As to claim 1, Yianilos et al. teaches an apparatus for a radio communication system having a network part that maintains a network-copy of a first database containing data and a mobile node that maintains a mobile-copy of the first database containing data (see paragraph 0080, “two databases are not located on the same processor” and “limited bandwidth link”), the first database being comprised of a plurality of records, a record being comprised of a plurality of fields, each field being populated with data, the data of the network-copy and data of the mobile-copy of the first database, corresponding when the data in the network-copy of the first database and the data in the mobile-copy of the first database match one another, said apparatus for altering the data of at least one of the network-copy and the mobile-copy of the first database to place the network-copy and the mobile-copy in match with each other (see paragraphs 0005-0007, “synchronization” and “synchronizable database D is a set containing records of the form (key, value)”), said apparatus being embodied at the mobile node and comprising:

a request detector, the request detector capable of detecting requests for hash information and requests for data records (see paragraph 0083 “Get_Interval_Hashes”; “Get_All_Hashes”;

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and paragraph 0081, "records are transferred which need to be transferred to make the databases synchronized");

a hash generator coupled to the request detector and receiving there from, requests for hash information, said hash generator capable of forming first and second hash values of data received by said hash generator from the first database, the hash generator generating a first hash value that is computed over the first database responsive to a first request received by the hash generator from the request detector, the first hash value being formed for communication to the network part to determine whether the network-copy and the mobile-copy are in match with one another (see paragraph 0083, "a single summary of all records lying in the given key interval" where the key interval could include all keys in the database and "Get_Interval_Hashes"), said second hash value being computed over an individual record of the first [database] and communicated to the network part, after said first hash value has been computed and communicated to the network part and used by the network part to determine that the network-copy and the mobile-copy are not in match with one another the second hash value being generated by the hash generator responsive to the receipt by the request detector of a second request for additional hash information, a second request for additional hash information being received by the request detector only if the mobile copy of the first hash value does not match the network copy of the first hash value (see paragraph 0083, if the summaries do not match and only a small number of records are in the key interval "then digests for all those individual records are transferred from the remote to the local side" and "Get_All_Hashes"); and

a content retriever coupled to said request detector, said content retriever retrieving data records from the mobile-copy of the first database responsive to requests received by said

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content receiver from the request detector, data records retrieved by said content retriever for communication to the network part, and used by the network part to synchronize the network-copy and the mobile-copy to each other (see paragraph 0081, “only those records are transferred which need to be transferred to make the databases synchronized”).

While Yianilos et al. teaches a limited bandwidth connection (see paragraph 0080), Yianilos et al. does not distinctly disclose receiver circuitry, capable of receiving radio signals or the request detector being coupled to the receiver circuitry.

La Rue et al. teaches this, see column 8, lines 20-60. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Yianilos et al. to include the teachings of La Rue et al. because these teachings would allow databases on a cellular telephone to be synchronized with a database across a network.

As to claim 2, Yianilos et al. as modified teaches wherein said hash generator generates the first hash values responsive to an external triggering event, occurrence of which is detectable at the mobile node (see paragraph 0083).

As to claim 3, Yianilos et al. as modified teaches wherein said hash generator generates the second hash values responsive to an external triggering event, occurrence of which is detectable at the mobile node (see paragraph 0083).

As to claim 4, Yianilos et al. as modified teaches wherein said hash generator generates the first hashes upon detection of an external triggering event, the occurrence of which is

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detectable at the mobile node and wherein said hash generator generates the second hashes responsive to a network part determination that the first hashes, generated by said hash generator did not match a first hash generated by the network part (see paragraph 0083).

As to claim 5, Yianilos et al. as modified teaches wherein the data maintained at the network-copy and the mobile-copy of the first database is comprised of data records, each data record being comprised of fields including at least a first key field and at least a first record field, and wherein the second hashes selectably generated by said hash generator are formed of values of the at least the first key field (see paragraph 0069).

As to claim 6, Yianilos et al. as modified teaches wherein the determination that the network-copy and the mobile-copy are out of match is made responsive to values of the second-type hashes formed of the values of the at least the key field (see paragraph 0069 and 0083).

As to claim 7, Yianilos et al. as modified teaches wherein the data retrieved by said content retriever comprises both the at least the first key field and the at least the first record field (see paragraph 0069).

As to claim 8, Yianilos et al. as modified teaches wherein the network part comprises:
a determiner embodied at the network part and which receives hash values generated by said hash generator embodied at the mobile node, said determiner determining whether the hash

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values generated by the hash generator at the mobile node, match with corresponding hash values generated at the network part (see paragraph 0083); and

a requestor coupled to said determiner and receiving indications that a hash value from the mobile node does not match a corresponding hash value generated at the network part, said requestor requesting from the mobile node, additional information associated with the mobile-copy of the first database (see paragraph 0067).

As to claim 9, Yianilos et al. as modified teaches wherein the hash values generated at the network part include said first hash value and said second hash value (see paragraph 0067 and 0083).

As to claim 10, Yianilos et al. as modified teaches wherein the additional information requested by said requestor comprises a request for the mobile node to deliver the second hash value to the comparator (see paragraph 0083).

As to claim 11, Yianilos et al. as modified teaches wherein the data maintained at the network-copy and the mobile-copy of the first database is comprised of data records and wherein the additional information requested by said requestor comprises a request for the mobile node to deliver at least portions of the data records (see paragraph 0067).

As to claim 12, Yianilos et al. as modified teaches further comprising a comparator receiving from the mobile node, data records or portions thereof and adapted to compare data

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records or portions thereof from the mobile node, to corresponding values of the network-copy of the first database (see paragraphs 0081-0082).

As to claim 13, Yianilos et al. as modified teaches further comprising a database value updater coupled to said comparator, said database value updater being responsive to comparisons made by said comparator to alter at least one data record of a selected one of the mobile-copy and the network-copy of the at least the first database (see paragraph 0067).

As to claim 14, Yianilos et al. as modified teaches wherein said database value updater operates pursuant to a selected conflict resolution protocol (see paragraph 0082).

As to claim 15, Yianilos et al. teaches a method for a radio communication system having a network part that maintains a network-copy of a first database and a mobile node that maintains a mobile-copy of the first database (see paragraph 0080), the first database being comprised of a plurality of records, a record being comprised of a plurality of fields and each field being populated with data, the network-copy and the mobile-copy of the first database corresponding to each other when data in the network-copy and data in the mobile-copy of the first database are match one another, said method for synchronizing the network-copy of the first database with the mobile-copy of the first database (see paragraphs 0005-0007) said method comprising:

detecting requests for hash information and requests for data records (see paragraph 0083 “Get_Interval_Hashes”; “Get_All_Hashes”; and paragraph 0081, “records are transferred which need to be transferred to make the databases synchronized”);

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responsive to the receipt of a first request for hash information, sending from the mobile node to the network part, a first hash value that is calculated over the first database the first hash value representative of the mobile-copy of the first database (see paragraph 0083, “a single summary of all records”);

comparing, at the network part, the first hash value received from the mobile node, to a second hash value calculated at the network part, the second hash value being calculated from the network-copy of the first database and representative of the network copy of the first database using the first technique (see paragraph 0083, “If summaries match”); and

responsive to a determination that the first hash value received from the mobile node does not match the second hash value calculated at the network part, requesting from the mobile node, a third hash value that is calculated at the mobile node over a first individual record of the mobile-copy of the first database using a second technique; sending the third hash value from the mobile node to the network part (see paragraph 0083, “Get_All_Hashes”); and

at the network part, comparing the third hash value received from the mobile to a fourth hash value calculated at the network part over the network copy of said first individual record using said second technique (see paragraph 0083, “record to record comparison is made to identify discrepancies”);

wherein the network copy of the first database and the mobile node copy of the first database are determined to be different from each other when the first and second hash values are different from each other; and wherein the first individual record of the mobile copy of the first database is determined to be different from first individual record of the network copy of the first

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database when the third and fourth hash value are different from each other (see paragraphs 0067, 0083, and 0084).

While Yianilos et al. teaches a limited bandwidth connection (see paragraph 0080), Yianilos et al. does not distinctly disclose receiving radio signals containing data and detecting requests in those radio signals.

La Rue et al. teaches this, see column 8, lines 20-60. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified Yianilos et al. to include the teachings of La Rue et al. because these teachings would allow databases on a cellular telephone to be synchronized with a database across a network.

As to claim 16, Yianilos et al. as modified teaches wherein the third hash value is calculated from the first portion of the mobile node copy of the first database and wherein the fourth hash value is calculated from a corresponding first portion of the network copy of the first database (see paragraph 0067 and 0083).

As to claim 17, Yianilos et al. as modified teaches further comprising the operations of: requesting at least a portion of the mobile- copy of the first database to be transmitted from the mobile node to the network in response to a comparison of the third hash value to the fourth hash value (see paragraphs 0067 and 0083).

As to claim 18, Yianilos et al. as modified teaches further comprising the operations [of:] delivering a portion of the mobile-copy to the network part (see paragraph 0081);

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comparing the portion of the mobile copy delivered to the network part with a corresponding portion of the network-copy of the first database (see paragraph 0067); and

overwriting portions of the network-copy of the first database and the mobile-copy of the first database responsive to comparisons made during said operation of comparing the portions of the mobile-copy to the network copy (see paragraph 0081).

As to claim 20, Yianilos et al. as modified does not distinctly disclose further comprising the operation of creating a change-history by indicating which portions of the database were overwritten.

However, it is well known to one having ordinary skill in the art at the time of the invention to create a change-history of databases as evidenced by paragraph 0012 of Yianilos et al. Therefore while Yianilose et al. employs techniques that do not require creating a change-history it would be obvious to one of ordinary skill in the art to create a log so that old revisions can be recovered.

5. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yianilos et al. (U.S. patent application publication No. 2002/0029214 A1).

As to claim 21, Yianilos et al. method for synchronizing a database on a network with a database on a mobile node, the method comprising:

creating first hash information pursuant to a first technique, the first hash information being representative of values contained in the mobile node's database (see paragraph 0083, "Get_Interval_Hashes");

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communicating the first hash information to the network node (see paragraph 0080, “two databases are assumed to be located on different processors connected via a limited bandwidth link”);

receiving at a request detector coupled to receiver circuitry of the mobile node a request from the network for second hash information when the network determines, based at least on the first hash information, that the database on the network and the database on the mobile node are out-of-match (see paragraph 0083, “Get_All_Hashes”); [and]

creating the second hash information pursuant to a second technique (see paragraph 0067 and 0083);

wherein the first technique is less computationally-intensive than the second technique and the first hash information requires less communication channel capacity than the second hash information (see paragraph 0083, where computing one hash for a plurality of records requires less computation and communication bandwidth than computing a hash for each record individually).

Yianilos et al. does not distinctly disclose a plurality of databases, but this is simply a multiplication of parts. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have multiple databases to provide areas for storing different types of information since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Response to Arguments

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6. Applicant's arguments with respect to claims have been considered but are moot in view of the new grounds of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob F. Bétit whose telephone number is (571)272-4075. The examiner can normally be reached on Monday through Friday 9:30 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tony Mahmoudi can be reached on (571) 272-4078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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8 Jun 2009

/Tony Mahmoudi/

Supervisory Patent Examiner, Art Unit 2169